Abstract of the Disclosure

A thermal mass flow controller includes a sensor assembly, a valve assembly, and mass flow controller housing. A thermal ground limits the conductive thermal path between the mass flow controller housing and the sensor assembly and, due to the limited cross-section of the thermal ground, substantially eliminates externally imposed thermal gradients within the sensor assembly. The controller also includes a thermally dissipative element that conducts thermal energy along a path from the valve assembly away from the sensor assembly.